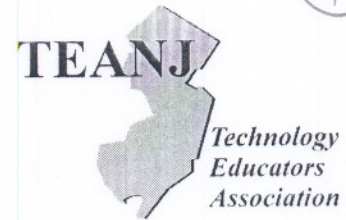


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Testimony on Teacher Preparation for Technology Education

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Good afternoon and thank you for the opportunity to speak today about two very important issues regarding student education in New Jersey. My name is Michael Condurso. I am a classroom teacher from Bordentown Regional High School and the Past President of the Technology Educators Association of New Jersey (TEANJ).

The two issues that I would like to speak about are teacher preparation in the field of Technology Education and the New Jersey Core Curriculum Content Standards for Technology Education.

First, the most trying problem in Technology Education in New Jersey as it stands today is teacher preparation in the field. Over the past several years, the profession has been aware of a lack of teacher preparation programs in the state which has resulted in a shortage of qualified teachers. My testimony today is based on a February 2006 survey conducted by TEANJ.

The only school in New Jersey that offers an accredited teacher preparation program for Technology Education is The College of New Jersey. Undergraduate programs at other state institutions have closed their doors in recent years. In 2004-05, Technology Educators Association of New Jersey (TEANJ) members learned that institutions consistently cite budget constraints as a major reason for programs being closed. The 1996 adoption of the New Jersey Core Curriculum Content Standards (CCCS), which did not include standards for Technology Education, undoubtedly influenced the closing of these programs as well.

The state has since moved toward rectification of the situation with adoption of updates to the CCCS that include Technological Literacy standards, the creation of a teaching license endorsement for Technology Education, and a more equitable set of high school graduation requirements. However, past events have left a situation that needs now to be remedied. In February of 2006 TEANJ conducted a survey of middle schools and high schools in the state, part of which focused on gathering data to substantiate this teacher shortage. The survey of New Jersey middle and high schools revealed that approximately 27% of the current Technology Education teaching force is planning to retire within the next five years and approximately 50% are planning to retire within the next ten years. This translates to an estimated need for over 500 new teachers coming into the field within the next five years and over 900 within the next ten years just to maintain the current teaching force. The College of New Jersey graduates only about 20-25 students per year.

The NJDOE has held recruitment events for other areas of the curriculum in the past (e.g. World Languages). Similar events directed at recruitment of teachers of Technology Education should be held as soon as possible and should continue for the next several years. Tuition reimbursement is another incentive that may increase applicants to become technology educators. The state of Florida has addressed their need for technology educators in this way, as can be seen at: http://www.myfloridaeducation.com/programs/te_teach.htm.

Looking toward the near and distant future, we need to be sure that there will be appropriately qualified and certified teachers ready to meet this requirement in New Jersey schools. We also need to be sure that students have the opportunity to achieve these standards at the high school level through graduation requirement credit options. TEANJ applauds the Department of Education and state board of education initiatives in creating CCCS for Technology Education and a Technology Education license endorsement.

Second, the core curriculum content standards that New Jersey adopted in 2003 for Technology Literacy. Although we value the standards that were adopted, we have a series of concerns we feel need to be addressed in order to complete and efficiently implement what was outlined.

- There is massive confusion in the field between standards 8.1 and 8.2. Educational Technology and Technology Education are entirely different. Whereas educational technologies can be implemented in a cross-curricular manner to enhance learning, technology education has been identified as a core standard that should **stand alone** as a course offering similar to science and math. In fact, a key word that was originally included in the standards to help people differentiate between the two, 'engineering', was subsequently removed. Several national reports, most notably 'Rising Above the Gathering Storm', a 2005 National Academies Report to Congress and the President, are calling for technology and engineering content to be included in a state's curriculum standards. The state of Massachusetts is way ahead by not only including Technology and Engineering content into their state's curriculum, but they intend to add it to their statewide assessment system. In New Jersey, we feel as if this terminology continues to be confused, and that "computer applications" continue to be directly associated with Technology Education. We fear too many districts believe they are addressing the entirety of Standard 8, when in reality they are only delivering on the computer skills piece. A clear distinction between and a complete understanding of the difference between 8.1 and 8.2 at the state level will help eliminate this confusion. The state can play an important role by expanding its efforts to clarify the role and need for Technology Education programs at all grade levels.
- Public Law Chapter 68 of 2003 called for a review of "the Standards for Technological Literacy set forth by the International Technology Education Association, other states' standards and any other information deemed relevant by the committee". However, the descriptive statement corresponding to 8.2 only sites the Standards for Technological Literacy. If the intention was to include computer skills, I am sure the legislature would have cited specific standards such as those published by ISTE. We are prepared to go back to the legislature for clarification and further direction on this issue which has created much confusion in the field. Furthermore, an additional review of other sources

would have generated the research necessary to develop cumulative progress indicators at the elementary level that were not directly linked to the science standards. We do not believe the development of technology standards as mandated by law should reference back to those established for a completely separate discipline.

- Now three years later, there has been no form of monitoring at the state level to determine if each school is meeting the standards specific to 8.2. Districts must be held accountable and assessment should be done on the development and effectiveness of the 8.2 standards and this law through an organized, periodic process. What steps have been taken to ensure that the framework of 8.2 is being monitored and that these standards are being addressed by certified Technology Education professionals? We feel not enough is being done.

Without recognizing and taking the steps necessary to address these shortfalls, the challenge of implementing these standards will grow more difficult as these problems persist. With the endorsements of these standards and the creation of teaching license endorsement for technology education, we recommend that certified technology educators must be the ones primarily responsible for implementing these standards. Core content standards must be taught by those with certification in that area, and just as math teachers should be responsible for addressing math standards, technology educators must be responsible for teaching technology. The suggestion that technology education should be infused throughout math and science leaves learning and instruction to chance. Teachers in other disciplines do not have the time, the expertise, the safety background, nor in many cases the willingness to address what New Jersey identified as a core subject area with its own content standards.

The reality is that as education continues to present new challenges and emotionally charged issues to teachers and students alike, the value of technological literacy and understanding how technology affects society must be revisited. Persistent coverage of stories around New Jersey dealing with transportation, energy costs, communication shortfalls, outsourcing, or urban sprawl extenuate the reality that technology is presenting challenges that we simply cannot keep up with as citizens. The solutions to these real world problems can be solved by students that experience technology education programs. The state should hold districts accountable to these standards and not exacerbate the notion that computer skills equal technological literacy and that other areas can infuse this knowledge that truly is necessary to the state's economy.

Thank you again for the opportunity to speak to you today.